

stroys the glands and might permanently impair the function of the nasal mucosa. It is not unlikely that the relief our patients receive is due to the same factors which apparently bring about temporary relief following acute infections or after trauma to the nose.

We believe, with Doctor Hara, that ionization is merely a therapeutic adjunct and that its use should be very limited.

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BENTON N. COLVER, M. D. (1650 Melwood Drive, Glendale).—Doctor Hara has quite fairly stated the problem of handling cases which are clinically diagnosed as allergic rhinitis. Primarily, the patient must be taken into consideration as a whole, and have necessary consultation and care as may be indicated by his individual findings. Secondly, the ideal approach is to ascertain the allergens which are effective in his case. When this determination is made, steps should be taken to desensitize specifically. The impossibility of successfully carrying out this step in every case compels the rhinologist to seek some other form of help for a considerable number of his patients.

Finally, these cases, where failure to really solve the problem has resulted in continuance of the annoying symptoms, compel the rhinologist to resort to "symptomatic relief." Among the means employed is zinc ionization. This modality is admittedly a last resort after specific therapy has failed. So far as the patient is concerned, anything which will give him relief of his symptoms is acceptable. The use of the ionization does not preclude further study along the more desirable line of specific therapy.

Zinc ionization has been decried because of the suspension of certain normal functions of the nose. Experience and patience have revealed, however, that functional activity is not permanently lost. It might be compared to a massive dose of deep x-ray therapy which causes depilation and suspension of secretory function of glands in the neighborhood. Both of these effects are undesirable, but are not permanent, so that in due time hair growth is resumed and normal secretion begins. I believe that this is true of ionization in the nose so that any unpleasant symptoms can be tolerated in exchange for a relief from the annoyance of the allergic symptoms.

I feel that the careful selection of cases and accurate technique of ionization merits a continued "trial" and a careful tabulation of results in sizeable series of cases by a good number of dependable observers and clinicians.

INFECTIONS IN THE DANGER AREA OF THE LIPS, FACE AND NOSE*

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AND

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Fresno

DISCUSSION by Harry Wiley, M.D., Huntington Park; Rea E. Ashley, M.D., San Francisco; Charles William Brown, M.D., San Diego.

IN this article we do not expect to go deeply into the question of pathology, for it is well covered in the literature by Fraser,¹ Koslin,² Ayers⁴ et al., Totten,³ and numerous other authors.

NATURE OF A FURUNCLE

Briefly, a furuncle is confined to the hair follicle and immediately near-by tissue. If not traumatized, it usually stays so confined. If traumatized, and possibly at times without it, it may extend to the adipose tissue and escape all confines near to the hair follicle, erode veins, only slightly deeper, and spread along horizontal connective tissue layers in all directions, little unhampered by any success-

ful attempt at protective walling off; and in places it may come to the surface along vertical structures, causing multiple openings, when the process is termed a carbuncle.

The skin in this region is thin, in intimate relation with underlying muscles, and the veins are valveless and communicate freely through the angular vein with the superior ophthalmic, and through the inferior ophthalmic and pterygoid plexus with the cavernous sinus. The process may erode veins, or thrombi may form, thus pouring the infection into the blood stream, and may extend to the meninges. The fact that the system has ordinarily no protective immunity against the *Staphylococcus aureus*, and little time to prepare it, admits of disastrous results with overwhelming rapidity.

At the last meeting of the Academy of Ophthalmology and Otolaryngology in New York, Batson had an exhibit which demonstrated the futility of trying to interfere with the condition by ligation of the communicating veins with the deeper ones, there being such an extensive and irregular anastomosis that, except with major surgery, inadvisable at the time, the process could not be cut off and thereby confined, even if one could know they were early enough.

Infections in this region occur much more frequently after puberty, as the hair follicles and sebaceous glands are much more developed after this period, though some have occurred at an earlier age. It seems to occur more frequently in the male than in the female, and on the lips and cheek.

THERAPY, AS REPORTED IN THE LITERATURE

Advice in the literature as to treatment runs all the way from strictly leaving the pus there, and using flaxseed poultices, through the use of vaccines, x-rays, heat, cautious incision, to the extreme radical of crucial incision, or radical exsection of the affected area.

Many suggest no surgery be done, and Dittrich⁵ says that surgically treated cases have produced about twice as great fatality as nonsurgical. Probably more grave cases have been operated than minor ones because of desperation, etc., and that might partly account for the greater mortality. But there are fatal cases reported when conservative nonsurgical treatment was used, though no trauma had been inflicted.

Surgeons usually advise where pus is found, evacuate it. One, condemning sole reliance on poultices, although he was considering abscess in another area, but would apply here, too, remarked that "the doctor might often have to depend on the abscess to rupture three days after death." The crucial incision of wide and deep extent produces a horrible cosmetic result. The incision that goes wider and deeper than it should invites disaster by completing the way for fatal extension. Where pus is found, evacuate it, but the incision should be confined to making simply an adequate opening to evacuate it, and only deep enough to do so. Such incisions are compatible with a perfect cosmetic end-result, with best safety and the shortest possible recovery period when combined with the proper application of pure phenol, melted crystals, and no

* Read before the Eye, Ear, Nose and Throat Section of the California Medical Association at the sixty-sixth annual session, Del Monte, May 2-6, 1937.

dilution; not even with the popular addition of 5 per cent water, which admittedly makes the drug more convenient to use, as then it is liquid at ordinary temperatures.

METHOD OF USING PHENOL

One writer, Koch,⁸ says, "The sooner we forget the notion that phenol and other drugs are helpful the better," but we are strongly persuaded to believe that such a statement concerning phenol emanates from a lack of experience with the proper use of it. Before this Society, in 1914, one of us (G. W. W.) read a paper on certain uses of pure phenol, and in the discussion I was surprised that some of the leaders of our profession failed to grasp that I was talking about the use of pure phenol, and spoke of experiences with the use of various dilutions. I was talking about pure phenol. If they had not spoken of dilutions less than 95 per cent, I might have paid little critical attention to their discussion, but they seemed to think of dilution anywhere down to 5 per cent, and dressings being bound on the skin saturated with various dilutions, while I was talking of application of pure phenol as mentioned above, followed in two minutes by alcohol to stop its action. Consequently, we believe that even good surgeons might sometimes fail to grasp the proper method of using phenol. However, two authors do make favorable mention of the use of pure phenol, one of the best descriptions of its use being by Totten.³

Sometimes there is destruction of the epidermis over the area of the carbuncle, with minute fistulae opening from the deeper area. If the integrity of the superficial structures of the skin is not good, remove it and paint the area with pure phenol, following in two minutes by washing off with alcohol to stop the action of the phenol. After the diseased cutaneous surface has been removed, in cases where it is already abraded somewhat, one will usually find sinuses, sometimes minute, which can be followed with a metal applicator on which is tightly twisted absorbent cotton; applying the cotton in one continuous wrapping on the wetted applicator so that it will stay on better, the cotton being twisted along the applicator to a greater length than the depth of the cavity. If the sinus size is ample, or is made so by judicious incision, make the pledget bigger. We should not cut through the infected into healthy area in deeper tissue, but in any event follow by phenol. If no sinus can be found, open with a narrow-bladed knife to the subcutaneous area of destruction and follow with phenol. When one wishes the opening larger, cautiously widen the incision, all the time keeping near the center of the diseased mass and promptly applying phenol wherever the incision goes. The multiple openings of carbuncles must be found and followed to their limits, without trauma deeper than the pyogenic process has gone. With the phenol applicator, one can usually break down septa and connective tissue and open a carbuncle into fewer, or into one cavity.

Cases do not become grave if properly treated before the carbuncle stage.

We have followed this out in six carbuncle cases: three in the cheek near the nose; one in the cheek, spreading from the side of the nose; and two in the upper lip and cheek, as well as in many less grave cases.

In those which have become grave, search for the center of the infected area and make application of phenol to areas a few millimeters apart. If no pus cavity is present, the carbuncle development stops.

Of course, if a pus cavity originating in a hair follicle preceded, at least that one pus center is discoverable, and pathologic processes therefrom can be attacked, not by one continuous line of incision or excision, but if careful search finds no other pus yet formed, frequent narrow incisions, of only proper depth should be made. These to be spaced only about four millimeters apart, each well phenolized. Such frequently placed incisions and gentle insinuation with cotton-wound applicator and phenol will often break into pus cavities, and from these leads lateral extensions can be found and followed to destination.

Watchful waiting allows the possibility of intracranial involvement. Careful incision and phenol, such as outlined here, arrests the process.

There is some sting from the application of the phenol, but that sting stops in about six seconds and the area becomes anesthetic. Local anesthetics should not be used for obvious reasons. The phenol anesthetizes. Manipulation done as gently as it must be, will not hurt from then on. After the application of phenol on the surface, the area needs to be covered and protected from outside temperature for about two hours, for there will be some burning sensation for about that time that is greater if exposed to room temperature. Drains should be inserted as needed to keep sinuses open, and careful and frequent cleansing to keep crusts from sealing openings until débris separates and allows healing.

Many mention the good from vaccines or x-rays and emphasize that they must be begun early. Sometimes you do not encounter the case early, but whatever the stage of the local focus, phenol stops it at once, if properly applied, and you do not have to delay a day or two for improvement.

Totten says "clinical results are not to be measured by only recovery or fatality, but also by results of treatment shown in twenty-four to forty-eight hours from beginning it, and to know the severity and presence of complications." That is certainly correct. He advises hot boric or magnesium sulphate solution applications until pus forms.

COMMENT

This is not something that we have used simply for two or three cases over a period of a few months and about which we have become greatly enthusiastic only to drop all after a season. One of us (G. W. W.) has used this in such manner since A. M. Phelps's description of its use in 1898. Phelps stated that it had been applied for years by Seneca D. Powell in the Postgraduate Hospital of New York. Phelps was a frequent writer on the

subject of joint affections. He advised the use of pure phenol, followed in two minutes by alcohol in abscesses in joints; also in erysipelas, painting it liberally on the skin over the area affected. Then, in general practice I so used it, painting it over an area of erysipelatos inflammation of the skin, and for about three inches beyond the area apparently affected. I learned that if I had a large area to be painted, that I must paint patches no greater than from three to four inches square, or less in case of an infant, neutralizing with alcohol after two minutes before proceeding further; that is, not to paint a large area of the body at one time before neutralizing, or there would probably be shock from an overdose of phenol.

I recall using it in a case of extensive metastatic abscesses involving one hip joint, one shoulder joint, and back over the whole of the scapula, one elbow and wrist joint, with a large sinus communicating in the interosseous space between the ulna and radius, from the elbow to the wrist, in which case I cut into all of the joints and diseased cavities, using pure phenol throughout all of them. The patient, though violently sick, promptly got well, the temperature falling at once. Perfect function of all parts resulted, except some tendency of one hand to contract, requiring mobilization for a time.

So I have used this in abscesses from whatever organism, and carried this over from my general surgery experiences and through my otolaryngology, and have never seen it fail to stop the process when the pyogenic process was followed throughout. In one case of erysipelas with phlegmon and pus burrowing throughout the length of the upper and lower eyelids, which were enormously thickened by the process, there was a common opening at the inner end of each lid, also at the outer end of each; thence the sinus extended to the ramus of the lower jaw, where it was opened and down subcutaneously to below the clavicle. Through four openings in the skin, cotton pledgets were passed on hemostats throughout the whole subcutaneous abscesses. Also, the patient had cutaneous erysipelas over both sides of the face, neck, and most of his head. This patient, an attorney, though then violently sick, was promptly made well, and there is almost no mark today to show where he was treated.

Of course, erysipelas and other suppurations than in the title are not under discussion primarily in this paper, but instead staphylococcus infection. This diversion was only to say more about application of phenol.

Of course, too, if the patient is moribund from cavernous sinus thrombosis and meningitis and we stop the original focus, he still may die from the cavernous sinus affection and meningitis although the primary focus be blotted out. Some patients have recovered from cavernous sinus thrombosis, so the original focus should be blotted out as soon as found, if possible, for either prevention of extension or to relieve the load. We are confident no other treatment will blot it out so promptly as the proper application of pure phenol throughout the area where pus is forming.

Do not hesitate to open to the pus, for the incision is promptly sterilized by the phenol. Do not carry the surgical trauma beyond affected area. We have used this in all cases, both mild and severe, with uniform good results, and so far have not had the misfortune to deal with a case of infection in this danger area in which we have come in charge of the case so late as to find sinus thrombosis and meningitis already developed, but following this method will prevent extension. Such a treatment, followed since Phelps's writing in the late nineties, bears that out in our experience.

To be sure, these cases are grave from early in the carbuncle stage, and the patient should be treated accordingly as to bed confinement, etc. The simple furuncle may require little or no treatment, although phenol properly applied will greatly hasten its complete recovery; but no trauma of its environment is safe.

IN CONCLUSION

We have only briefly reviewed the pathology. There are many articles in the literature, parts of which are good, some more nearly all the way through than others. Some advice we think bad. Evacuate pus. Make incisions only wide and deep enough, no more. Apply pure phenol to all incisions, find all pus cavities, and phenolize. Incise and phenolize at near-placed intervals in infected area, if big. It will not necrose and cause bad cosmetic result. It stops the pathologic process. Interlying tissue not already necrotic will live and preserve form. It saves life. It is compatible with speediest recovery.

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DISCUSSION

HARRY WILEY, M.D. (2701 Florence Avenue, Huntington Park).—To me the title of this paper is somewhat ambiguous and not wholly germane to the subject matter. When I first read it I expected a discussion of that time-honored subject of infections of the face and nose, particularly above the lip line. While this subject has been written about and discussed freely for years, I cannot believe there has ever been enough said about it. I am sure that each one of us has at some time in his life seen a simple little "pimple" on or near the nose develop into a raging infection that resulted in death. Since the author is not discussing this particular phase of infections, I can only say in passing that I would emphasize that injunction to the patient, which should be repeated over and over to everyone having this disturbance, "Do not squeeze."

It seems to be the intention of the author to bring out and emphasize the use of phenol in pustular infections, particularly those of streptococcal origin. He has covered the ground so thoroughly and well that there is little left for me to do except to commend his paper. Most of us remember that before the days of vaccines, S. T. 37, mercresin, mercurochrome, and a host of other dyes and germ-killing applications, phenol and bichlorid of mercury were

practically the only two things used for this purpose. Phenol was the *sine qua non*. It did the work just as the author has described it would, and it will still do it if you will use it as he tells us to—that is, in its pure and undiluted form. When used in its pure state it precipitates the albumins in the tissues and prevents its own absorption, but when diluted in any degree whatever there is more or less absorption, danger of poison and of local gangrene around the parts where it is applied. I do not agree with the author in the necessity of neutralizing with alcohol unless the phenol is used to excess and invades some of the surrounding healthy tissue. Although no harm is done if the alcohol is used, it is not necessary, as the phenol will only penetrate a certain distance in any event.

Again, I want to commend the author for once more bringing to our attention this worth while drug which has somewhat fallen into disuse in recent years.

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REA E. ASHLEY, M.D. (384 Post Street, San Francisco).—Several years ago I had the pleasure of hearing Doctor Walker discuss the phenol treatment of furunculosis of the external auditory canal. The treatment which he outlined at that time was similar to the one which he now presents for the treatment of infections about the face.

Since that time I have had several opportunities to test the antiseptic properties of pure phenol in infections about the ears, nose, and throat. The results have been so uniformly good that for several years I have also used pure phenol following incision of peritonsillar and retropharyngeal abscesses.

The advantages of phenol, as I see them, are:

1. It is highly antiseptic.
2. It is readily neutralized by alcohol, and thus its action can be accurately controlled.
3. It has escharotic properties which prevent the sealing of the abscess after incision, thus providing free drainage.

In my experience no bad results have been encountered in the phenol method of treatment as described by Doctor Walker. It deserves wider use in infections about the face.

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CHARLES WILLIAM BROWN, M.D. (Bank of America Building, San Diego).—Doctor Walker has adequately described the nature of a furuncle, and this should be deeply impressed upon the laity as well as the doctors. Too many are inclined to squeeze and thus bruise the tissues external to the natural protective wall that the body attempts to form for localizing the infection.

The adolescent is one in particular that does so much of this damage, and rightly so, for youth desires rapidly to do away with such a face blemish, when in reality the worst thing that could be done has happened in this bruising of the protective wall, thereby allowing the infection to spread rapidly, especially if it comes in contact with one of the larger veins.

I have many cases to show the damage done in not properly treating the "boils" or infections above the line marked by the angle of the mouth.

The infections in the hair follicles in the nasal vestibule are very trying to many, and I wish to state that many of these furuncles are due to allergic disturbances. In the past year I treated a woman who would have these pimples in the vestibule each time she ate lettuce.

Just last year a boy, sixteen years of age, squeezed a pimple near his nose and lip and it cleared up with treatment, but he developed shortly a perinephritic abscess that necessitated opening and prompt recovery ensued. This case was in the San Diego County General Hospital.

Doctor Walker has given a thorough outline of the treatment of infections of the face, and I am in hearty accord with his method of treatment:

1. Diagnose.
2. Liberate pus, if present, by incision; do not traumatize by pressure, but clean by swab or applicator.
3. Phenol applied as directed. I do not wait two minutes, as Doctor Walker states. The reason is probably fear.

When area is deep gray in color, apply pure alcohol and leave in pack or applicator for two or three minutes.

4. Apply loose dressings and give general supportive treatment.

5. In suspected streptococcal infection, sulfanilamid in form of prontolyn or prontosil. Dosage depends on size of the patient and severity of the disease. This is but recently an added treatment, but one I think we should not overlook in giving our patients every opportunity for speedy recovery.

It has been my pleasure to treat many erysipelas and erysipeloid cases of nose and ear, as well as small abscesses, furuncles, fissures; and even the frequent and simple fever blisters respond readily to phenol and alcohol treatment.

In closing, may I urge that this paper be read not only by ear, nose and throat specialists but by men in general practice, who will benefit by using such treatment in general use.

HANDWRITING A NEUROLOGICAL STUDY*

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DISCUSSION by Samuel D. Ingham, M.D., Los Angeles; Walter F. Schaller, M.D., San Francisco; Joseph Catton, M.D., San Francisco.

IN 1622, Baldo, an Italian professor of philosophy, stated: "The study of an intimate letter discloses the thoughts, the moods, and the dispositions of the writer."¹ Notwithstanding this early observation, handwriting has been a subject little studied from the medical standpoint. Handwriting disorders, present in many neurological diseases, and often valuable diagnostic aids, receive but slight mention in foreign neurological literature and still less in our own. This neglect is due to a number of factors. The value of such a study in diagnosis is often only confirmatory—the clinical diagnostic picture may be present before or at least coincident with the handwriting changes. Furthermore, the determination of deviations from normal is made extremely difficult because of the lack of normal standards. Speed of writing production may be measured accurately and a comparison made with normal averages. Style and legibility, on the other hand, do not lend themselves readily to estimation and comparison, save perhaps from a medico-legal standpoint, as in determining a forgery.

In graphology, or the study of handwriting, departures from the normal may occur in form or content; we may have, as Joffrey suggests, calligraphic or psychographic disorders.

Disorders of the content of handwriting, psychographic disorders, are of interest solely from the psychiatric standpoint and do not come within the scope of this paper. I may mention, in passing, that the written productions of a psychotic patient frequently give sufficient information to make possible a diagnosis of the type as well as the presence of a psychosis. Some years ago, in a study of 1,500 letters, comprising the so-called "Nut File" of the Los Angeles Police Department,² this was clearly demonstrated. Automatic writings may yield much subconscious material of value in a psychoanalysis of their author.³

* Read before the Neuropsychiatry Section of the California Medical Association at the sixty-sixth annual session, Del Monte, May 2-6, 1937.